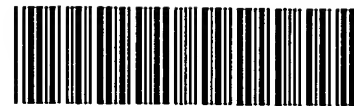


RAW SEQUENCE LISTING

The Biotechnology Systems Branch of the Scientific and Technical Information Center (STIC) no errors detected.

Application Serial Number: 10/534,054
Source: 1FW0
Date Processed by STIC: 7/3/06

ENTERED



IFWO

RAW SEQUENCE LISTING

DATE: 07/03/2006

PATENT APPLICATION: US/10/534,054

TIME: 12:48:59

Input Set : A:\Q87779 Seq List.TXT

Output Set: N:\CRF4\07032006\J534054.raw

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3 <110> APPLICANT: Helperby Therapeutics Limited
5 <120> TITLE OF INVENTION: Pain Relief Agents
7 <130> FILE REFERENCE: HELBH/P28724PC
C--> 9 <140> CURRENT APPLICATION NUMBER: US/10/534,054
C--> 10 <141> CURRENT FILING DATE: 2005-05-06
12 <150> PRIOR APPLICATION NUMBER: GB0226105.5
13 <151> PRIOR FILING DATE: 2002-11-08
15 <160> NUMBER OF SEQ ID NOS: 6
17 <170> SOFTWARE: SeqWin99
19 <210> SEQ ID NO: 1
20 <211> LENGTH: 1620
21 <212> TYPE: DNA
22 <213> ORGANISM: Mycobacterium tuberculosis
24 <400> SEQUENCE: 1
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26 aagctggccg acaccgtgcg ggtgacgctg gggccgcgcg gccggcatgt ggtgctggcc 120
27 aaggcgtttg gcggaccac ggttaccaac gacggcgctca cgggtggcac tgagatcgag 180
28 ctggaagatc cgtttgaaga cttgggcgcc cagctggtga agtcggtggc caccaagacc 240
29 aacgatgtgg ccggtgacgg caccaccacc gcaaccatct tggcgaggc actgatcaag 300
30 ggccgacctga ggctagtggc cgccggcgct aaccgatcg cgctcggcgt gggaatcggc 360
31 aaggccgcgc acgcggtatc cgaggcgctg ctggcatcgg ccacgcgggt gtccggcaag 420
32 accggcatcg cgcaggtggc gacggtgtcc tcgcgcgacg agcagatcgg tgacctggtt 480
33 ggccaagcga tgagcaaggt cggccacgac ggcgtggtca gcgtcgaaga atcctcgacg 540
34 ctgggcaccg agttggagtt caccgagggt atcggcttcg acaagggtt cttgtcggca 600
35 tacttcgtta ccgacttcga taaccagcag gcggtgctcg aggacgcgtt gatcctgctg 660
36 caccaagaca agatcagctc gcttcccgat ctgttgccat tgctggaaaa ggttgcagga 720
37 acgggtaagc cactactgat cgtggctgaa gacgtggagg gcgaagcgtt ggcgacgctg 780
38 gtcgtcaacg cgattcgcaa gacgttgaaa gcggtcgcgg tcaaggggccc gtacttcggt 840
39 gaccgccgta aggcgttcct tgaggacctg gcggtggtga cgggtggcca ggtggtcaac 900
40 cccgacgccg gcatggtgct gcgcgaggtg ggcttgagg tgctgggctc ggcccgacgc 960
41 gtggtggtca gcaaggacga cacggtcatt gtcgacggcg gcggcaccgc agaagcgggtg 1020
42 gccaaaccgg cgaagcactt gcgtgccgag atcgacaaga gcgattcgga ttgggatcgg 1080
43 gaaaagcttg gcgagcggct ggccaaactg gccggcgggg ttgctgtcat caaggtgggt 1140
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45 gccaaaggcc cggtcgagga gggcatcgct cctggtgggg gagcctcgct catccaccag 1260
46 gcccgcaagg cgctgaccga actgcgtgcg tcgctgaccg gtgacgaggt cctcggtgtc 1320
47 gacgtgttct ccgaagccct tgccgcgccg ttgttctgga tcgccgcaa cgctggcttg 1380
48 gacggctcgg tgggtggtcaa caaggtcagc gagctaccgc ccgggcatgg gctgaacgtg 1440
49 aacaccctga gctatggtga cttggccgct gacggcgctc tcgaccgggt caaggtgact 1500
50 aggtcggcgg tggtgaacgc gtcacgggtt gccgggatgg tactcaccac cgagacggtc 1560
51 gtggtcgaca agccggccaa ggcagaagat cacgaccatc accacgggca cgcgcactga 1620
53 <210> SEQ ID NO: 2
54 <211> LENGTH: 539

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RAW SEQUENCE LISTING

DATE: 07/03/2006

PATENT APPLICATION: US/10/534,054

TIME: 12:48:59

Input Set : A:\Q87779 Seq List.TXT

Output Set: N:\CRF4\07032006\J534054.raw

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55 <212> TYPE: PRT
56 <213> ORGANISM: Mycobacterium tuberculosis
58 <400> SEQUENCE: 2
59 Met Ser Lys Leu Ile Glu Tyr Asp Glu Thr Ala Arg Arg Ala Met Glu
60 1 5 10 15
62 Val Gly Met Asp Lys Leu Ala Asp Thr Val Arg Val Thr Leu Gly Pro
63 20 25 30
65 Arg Gly Arg His Val Val Leu Ala Lys Ala Phe Gly Gly Pro Thr Val
66 35 40 45
68 Thr Asn Asp Gly Val Thr Val Ala Arg Glu Ile Glu Leu Glu Asp Pro
69 50 55 60
71 Phe Glu Asp Leu Gly Ala Gln Leu Val Lys Ser Val Ala Thr Lys Thr
72 65 70 75 80
74 Asn Asp Val Ala Gly Asp Gly Thr Thr Thr Ala Thr Ile Leu Ala Gln
75 85 90 95
77 Ala Leu Ile Lys Gly Gly Leu Arg Leu Val Ala Ala Gly Val Asn Pro
78 100 105 110
80 Ile Ala Leu Gly Val Gly Ile Gly Lys Ala Ala Asp Ala Val Ser Glu
81 115 120 125
83 Ala Leu Leu Ala Ser Ala Thr Pro Val Ser Gly Lys Thr Gly Ile Ala
84 130 135 140
86 Gln Val Ala Thr Val Ser Ser Arg Asp Glu Gln Ile Gly Asp Leu Val
87 145 150 155 160
89 Gly Glu Ala Met Ser Lys Val Gly His Asp Gly Val Val Ser Val Glu
90 165 170 175
92 Glu Ser Ser Thr Leu Gly Thr Glu Leu Glu Phe Thr Glu Gly Ile Gly
93 180 185 190
95 Phe Asp Lys Gly Phe Leu Ser Ala Tyr Phe Val Thr Asp Phe Asp Asn
96 195 200 205
98 Gln Gln Ala Val Leu Glu Asp Ala Leu Ile Leu Leu His Gln Asp Lys
99 210 215 220
101 Ile Ser Ser Leu Pro Asp Leu Leu Pro Leu Leu Glu Lys Val Ala Gly
102 225 230 235 240
104 Thr Gly Lys Pro Leu Leu Ile Val Ala Glu Asp Val Glu Gly Glu Ala
105 245 250 255
107 Leu Ala Thr Leu Val Val Asn Ala Ile Arg Lys Thr Leu Lys Ala Val
108 260 265 270
110 Ala Val Lys Gly Pro Tyr Phe Gly Asp Arg Arg Lys Ala Phe Leu Glu
111 275 280 285
113 Asp Leu Ala Val Val Thr Gly Gly Gln Val Val Asn Pro Asp Ala Gly
114 290 295 300
116 Met Val Leu Arg Glu Val Gly Leu Glu Val Leu Gly Ser Ala Arg Arg
117 305 310 315 320
119 Val Val Val Ser Lys Asp Asp Thr Val Ile Val Asp Gly Gly Gly Thr
120 325 330 335
122 Ala Glu Ala Val Ala Asn Arg Ala Lys His Leu Arg Ala Glu Ile Asp
123 340 345 350
125 Lys Ser Asp Ser Asp Trp Asp Arg Glu Lys Leu Gly Glu Arg Leu Ala
126 355 360 365

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Input Set : A:\Q87779 Seq List.TXT

Output Set: N:\CRF4\07032006\J534054.raw

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128 Lys Leu Ala Gly Gly Val Ala Val Ile Lys Val Gly Ala Ala Thr Glu
129      370                      375                      380
131 Thr Ala Leu Lys Glu Arg Lys Glu Ser Val Glu Asp Ala Val Ala Ala
132 385                      390                      395                      400
134 Ala Lys Ala Ala Val Glu Glu Gly Ile Val Pro Gly Gly Gly Ala Ser
135                      405                      410                      415
137 Leu Ile His Gln Ala Arg Lys Ala Leu Thr Glu Leu Arg Ala Ser Leu
138                      420                      425                      430
140 Thr Gly Asp Glu Val Leu Gly Val Asp Val Phe Ser Glu Ala Leu Ala
141      435                      440                      445
143 Ala Pro Leu Phe Trp Ile Ala Ala Asn Ala Gly Leu Asp Gly Ser Val
144      450                      455                      460
146 Val Val Asn Lys Val Ser Glu Leu Pro Ala Gly His Gly Leu Asn Val
147 465                      470                      475                      480
149 Asn Thr Leu Ser Tyr Gly Asp Leu Ala Ala Asp Gly Val Ile Asp Pro
150                      485                      490                      495
152 Val Lys Val Thr Arg Ser Ala Val Leu Asn Ala Ser Ser Val Ala Arg
153                      500                      505                      510
155 Met Val Leu Thr Thr Glu Thr Val Val Val Asp Lys Pro Ala Lys Ala
156      515                      520                      525
158 Glu Asp His Asp His His His Gly His Ala His
159      530                      535
161 <210> SEQ ID NO: 3
162 <211> LENGTH: 1623
163 <212> TYPE: DNA
164 <213> ORGANISM: Mycobacterium tuberculosis
166 <400> SEQUENCE: 3
167 atggccaaga caattgcgta cgacgaagag gcccgtcgcg gcctcgagcg gggcttgaac 60
168 gccctcgccg atgcggtaaa ggtgacattg ggccccaagg gccgcaacgt cgtcctggaa 120
169 aagaagtggg gtgccccac gatcaccaac gatggtgtgt ccatcgccaa ggagatcgag 180
170 ctggagggat cgtacgagaa gatcggcgcc gagctgggtca aagaggtagc caagaagacc 240
171 gatgacgtcg ccggtgacgg caccacgacg gccaccgtgc tggcccaggc gttggttcgc 300
172 gagggcctgc gcaacgtcgc ggccggcgcc aaccgcgtcg gtctcaaacg cggcatcgaa 360
173 aaggccgtgg agaaggtcac cgagaccctg ctcaagggcg ccaaggaggt cgagaccaag 420
174 gagcagattg cggccaccgc agcgatttcg gcgggtgacc agtccatcgg tgacctgate 480
175 gccgaggcga tggacaaggt gggcaacgag ggcgtcatca ccgtcgagga gtccaacacc 540
176 tttgggctgc agctcgagct caccgagggt atgcggttcg acaagggcta catctcgggg 600
177 tacttcgtga ccgaccgga gcgtcaggag gcggtcctgg aggacccta catcctgctg 660
178 gtcagctcca aggtgtccac tgtcaaggat ctgctgccgc tgctcgagaa ggtcatcgga 720
179 gccggtaaac cgctgctgat catcgccgag gacgtcgagg gcgaggcgct gtccaccctg 780
180 gtcgtcaaca agatccgcgg caccttcaag tcggtggcgg tcaaggctcc cggcttcggc 840
181 gaccgccgca aggcgatgct gcaggatatg gccatttca ccggtggtca ggtgatcagc 900
182 gaagaggtcg gcctgacgct ggagaacgcc gacctgtcgc tgctaggcaa ggcccgaag 960
183 gtcgtggtca ccaaggacga gaccaccatc gtcgagggcg ccggtgacac cgacgccatc 1020
184 gccggacgag tggcccagat ccgccaggag atcgagaaca gcgactccga ctacgaccgt 1080
185 gagaagctgc aggagcggct ggccaagctg gccggtggtg tcgcggtgat caaggccggt 1140
186 gccgccaccg aggtcgaact caaggagcgc aagcaccgca tcgaggatgc ggttcgcaat 1200
187 gccaaaggcc ccgtcgagga gggcatcgtc gccggtgggg gtgtgacgct gttgcaagcg 1260
188 gccccgacct tggacgagct gaagctcgaa ggcgacgagg cgaccggcgc caacatcgtg 1320

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TIME: 12:48:59

Input Set : A:\Q87779 Seq List.TXT

Output Set: N:\CRF4\07032006\J534054.raw

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189 aaggtggcgc tggaggcccc gctgaagcag atcgcttca actccgggct ggagccgggc 1380
190 gtggtggccg agaaggtgcg caacctgccg gctggccacg gactgaacgc tcagaccggt 1440
191 gtctacgagg atctgctcgc tgcggcggtt gctgaccggg tcaaggtgac ccgttcggcg 1500
192 ctgcagaatg cggcggtccat cgcggggctg ttctgacca ccgaggccgt cgttgccgac 1560
193 aagccggaaa aggagaaggc ttccgttccc ggtggcggcg acatgggtgg catggatttc 1620
194 tga 1623
196 <210> SEQ ID NO: 4
197 <211> LENGTH: 364
198 <212> TYPE: PRT
199 <213> ORGANISM: Mycobacterium tuberculosis
201 <400> SEQUENCE: 4
202 Met Ala Lys Thr Ala Tyr Asp Ala Arg Arg Gly Arg Gly Asn Ala Ala
203 1 5 10 15
205 Asp Ala Val Lys Val Thr Gly Lys Gly Arg Asn Val Val Lys Lys Trp
206 20 25 30
208 Gly Ala Thr Thr Asn Asp Gly Val Ser Ala Lys Asp Tyr Lys Gly Ala
209 35 40 45
211 Val Lys Val Ala Lys Lys Thr Asp Asp Val Ala Gly Asp Gly Thr Thr
212 50 55 60
214 Thr Ala Thr Val Ala Ala Val Arg Gly Arg Asn Val Ala Ala Gly Ala
215 65 70 75 80
217 Asn Gly Lys Arg Gly Lys Ala Val Lys Val Thr Thr Lys Gly Ala Lys
218 85 90 95
220 Val Thr Lys Ala Ala Thr Ala Ala Ser Ala Gly Asp Ser Gly Asp Ala
221 100 105 110
223 Ala Met Asp Lys Val Gly Asn Gly Val Thr Val Ser Asn Thr Gly Thr
224 115 120 125
226 Gly Met Arg Asp Lys Gly Tyr Ser Gly Tyr Val Thr Asp Arg Ala Val
227 130 135 140
229 Asp Tyr Val Ser Ser Lys Val Ser Thr Val Lys Asp Lys Val Gly Ala
230 145 150 155 160
232 Gly Lys Ala Asp Val Gly Ala Ser Thr Val Val Asn Lys Arg Gly Thr
233 165 170 175
235 Lys Ser Val Ala Val Lys Ala Gly Gly Asp Arg Arg Lys Ala Met Asp
236 180 185 190
238 Met Ala Thr Gly Gly Val Ser Val Gly Thr Asn Ala Asp Ser Gly Lys
239 195 200 205
241 Ala Arg Lys Val Val Val Thr Lys Asp Thr Thr Val Gly Ala Gly Asp
242 210 215 220
244 Thr Asp Ala Ala Gly Arg Val Ala Arg Asn Ser Asp Ser Asp Tyr Asp
245 225 230 235 240
247 Arg Lys Arg Ala Lys Ala Gly Gly Val Ala Val Lys Ala Gly Ala Ala
248 245 250 255
250 Thr Val Lys Arg Lys His Arg Asp Ala Val Arg Asn Ala Lys Ala Ala
251 260 265 270
253 Val Gly Val Ala Gly Gly Gly Val Thr Ala Ala Thr Asp Lys Gly Asp
254 275 280 285
256 Ala Thr Gly Ala Asn Val Lys Val Ala Ala Lys Ala Asn Ser Gly Gly
257 290 295 300

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RAW SEQUENCE LISTING

DATE: 07/03/2006

PATENT APPLICATION: US/10/534,054

TIME: 12:48:59

Input Set : A:\Q87779 Seq List.TXT

Output Set: N:\CRF4\07032006\J534054.raw

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259 Val Val Ala Lys Val Arg Asn Ala Gly His Gly Asn Ala Thr Gly Val
260 305          310          315          320
262 Tyr Asp Ala Ala Gly Val Ala Asp Val Lys Val Thr Arg Ser Ala Asn
263          325          330          335
265 Ala Ala Ser Ala Gly Thr Thr Ala Val Val Ala Asp Lys Lys Lys Ala
266          340          345          350
268 Ser Val Gly Gly Gly Asp Met Gly Gly Met Asp Phe
269          355          360
271 <210> SEQ ID NO: 5
272 <211> LENGTH: 303
273 <212> TYPE: DNA
274 <213> ORGANISM: Mycobacterium tuberculosis
276 <400> SEQUENCE: 5
277 gtggcgaagg tgaacatcaa gccactcgag gacaagattc tcgtgcaggc caacgaggcc 60
278 gagaccacga cgcgcgtccgg tctggtcatt cctgacaccg ccaaggagaa gccgcaggag 120
279 ggcaccgtcg ttgccgtcgg ccctggccgg tgggacgagg acggcgagaa gcggatcccg 180
280 ctggacgttg cggaggggtga caccgtcatc tacagcaagt acggcggcac cgagatcaag 240
281 tacaacggcg aggaatacct gatcctgtcg gcacgcgacg tgctggccgt cgtttccaag 300
282 tag 303
284 <210> SEQ ID NO: 6
285 <211> LENGTH: 100
286 <212> TYPE: PRT
287 <213> ORGANISM: Mycobacterium tuberculosis
289 <400> SEQUENCE: 6
290 Met Ala Lys Val Asn Ile Lys Pro Leu Glu Asp Lys Ile Leu Val Gln
291 1          5          10          15
293 Ala Asn Glu Ala Glu Thr Thr Thr Ala Ser Gly Leu Val Ile Pro Asp
294          20          25          30
296 Thr Ala Lys Glu Lys Pro Gln Glu Gly Thr Val Val Ala Val Gly Pro
297          35          40          45
299 Gly Arg Trp Asp Glu Asp Gly Glu Lys Arg Ile Pro Leu Asp Val Ala
300          50          55          60
302 Glu Gly Asp Thr Val Ile Tyr Ser Lys Tyr Gly Gly Thr Glu Ile Lys
303 65          70          75          80
305 Tyr Asn Gly Glu Glu Tyr Leu Ile Leu Ser Ala Arg Asp Val Leu Ala
306          85          90          95
308 Val Val Ser Lys
309          100

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VERIFICATION SUMMARY

PATENT APPLICATION: US/10/534,054

DATE: 07/03/2006

TIME: 12:49:00

Input Set : A:\Q87779 Seq List.TXT

Output Set: N:\CRF4\07032006\J534054.raw

L:9 M:270 C: Current Application Number differs, Replaced Current Application Number

L:10 M:271 C: Current Filing Date differs, Replaced Current Filing Date